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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/540,649

Applicant(s)

PARK ET AL.

Examiner

ABIGAIL FISHER

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Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 February 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7, 9, 11-25 and 27-52 is/are pending in the application.
- 4a) Of the above claim(s) 27-31 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9, 11-25 and 32-52 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 10/20/08
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 3 2009 has been entered.

Receipt of Amendments/Remarks filed on February 3 2009 is acknowledged. Claims 8, 10 and 26 were/stand cancelled. Claims 1, 3-7, 9, 11-13 and 16 were amended. Claims 32-52 were added. Claims 1-7, 9, 11-25 and 27-52 are pending. Claims 27-31 are withdrawn as being directed to a non-elected invention. Claims **1-7, 9, 11-25 and 32-52** are directed to the elected invention.

Rejections and/or objections not reiterated from previous office actions are hereby withdrawn. The following rejections and/or objections are either reiterated or newly applied. They constitute the complete set presently being applied to the instant application.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on October 20 2008 was considered by the examiner.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 16 and 42 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement.

The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The specification discloses chemicals, such as para-aminobenzoic acid or ester thereof, methoxy cinnamate ester, benzophenone, dibenzoylmethane, and triazine which meet the written description and enablement provisions of 35 USC 112, first paragraph. However, claim(s) 18 is(are) directed to encompass derivatives and silicone "based" sunscreen agents, which only correspond in some undefined way to specifically instantly disclosed chemicals. None of these derivatives and "based" agents meet the written description provision of 35 USC § 112, first paragraph, due to lacking chemical structural information for what they are and chemical structures are highly variant and encompass a myriad of possibilities. The specification provides insufficient written description to support the genus encompassed by the claim. **Note: MPEP 2163.**

Vas-Cath Inc. v. Mahurkar, 19 USPQ2d 1111, (Fed. Cir. 1991), makes clear that "applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of *the invention*. The invention is, for

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purposes of the 'written description' inquiry, *whatever is now claimed.*" (See page 1117.) The specification does not "clearly allow persons of ordinary skill in the art to recognize that [he or she] invented what is claimed." (See Vas-Cath at page 1116.)

Univ. of Rochester v. G.D. Searle, 69 USPQ2d 1886, 1892 (CAFC 2004), further supports this by stating that:

The appearance of mere indistinct words in a specification or a claim, even an original claim, does not necessarily satisfy that requirement. A description of an anti-inflammatory steroid, i.e., a steroid (a generic structural term) described even in terms of its functioning of lessening inflammation of tissues fails to distinguish any steroid from others having the same activity or function. A description of what a material does, rather than of what it is, usually does not suffice.... The disclosure must allow one skilled in the art to visualize or recognize the identity of the subject matter purportedly described. (Emphasis added).

With the exception of the above specifically disclosed chemical structures, the skilled artisan cannot envision the detailed chemical structure of the encompassed **derivatives and "based" agents**, regardless of the complexity or simplicity of the method of isolation. Adequate written description requires more than a mere statement that it is part of the invention and reference to a potential method for isolating it. The chemical structure itself is required. See Fiers v. Revel, 25 USPQ2d 1601, 1606 (Fed. Cir. 1993) and Amgen Inc. V. Chugai Pharmaceutical Co. Ltd., 18 USPQ2d 1016, (Fed. Cir. 1991). In Fiddes v. Baird, 30 USPQ2d 1481, 1483, (Bd. Pat. App. & Int. 1993), claims directed to mammalian FGF's were found unpatentable due to lack of written description for the broad class. The specification provided only the bovine sequence. Finally, University of California v. Eli Lilly and Co., 43 USPQ2d 1398, 1404, 1405 (Fed. Cir. 1997) held that:

...To fulfill the written description requirement, a patent specification must describe an invention and do so in sufficient detail that one skilled in the art can clearly conclude that "the inventor invented the claimed invention." *Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1572, 41 USPQ2d 1961, 1966 (Fed. Cir. 1997); *In re Gosteli*, 872 F.2d 1008, 1012, 10 USPQ2d 1614, 1618 (Fed. Cir. 1989) (" [T]he description must clearly allow persons of ordinary skill in the art to recognize that [the inventor] invented what is claimed."). Thus, an applicant complies with the written description requirement "by describing the invention, with all its claimed limitations, not that which makes it obvious," and by using "such descriptive means as words, structures, figures, diagrams, formulas, etc., that set forth the claimed invention." *Lockwood*, 107 F.3d at 1572, 41 USPQ2d at 1966.

Furthermore, to the extent that a functional description can meet the requirement

for an adequate written description, it can do so only in accordance with PTO guidelines stating that the requirement can be met by disclosing "sufficiently detailed, relevant identifying characteristics," including "functional characteristics when coupled with a known or disclosed correlation between function and structure." Univ. of Rochester v. G.D. Searle, 68 USPQ2d 1424, 1432 (DC WNY 2003).

Therefore, only the above chemically structurally defined chemicals, but not the full breadth of the claim(s) meet the written description provision of 35 USC § 112, first paragraph. The species specifically disclosed are not representative of the genus because the genus is highly variant. Applicant is reminded that Vas-Cath makes clear that the written description provision of 35 USC § 112 is severable from its enablement provision. (See page 1115.)

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3 and 32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 3 and 32 as currently written are vague and indefinite. For claim 3, it is unclear if the TiO₂ is in addition to that claimed in claim 1 or if it is further modifying the TiO₂ present in claim 1. For claim 32, it is unclear if the organic sunscreen agent is in addition to the organic component claimed or if it is further modifying the organic component present in claim 1.

If it is the latter interpretation for both claim, then the following rejection applies:

Claim 3 recites the limitation "TiO₂ and/or ZnO which is not doped" in line 3.

There is insufficient antecedent basis for this limitation in the claim.

Claim 32 recite the limitation organic sunscreen agent in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Claims 1-2, 4, 17-19, 21 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Remy (US Patent No. 5989573).

The instant application claims a UV sun screening composition suitable for cosmetic or topical pharmaceutical use which comprises an amount of one or more organic components which are photosensitive and/or which are degraded and/or in which degradation is induced by another ingredient of the composition and an effective amount of TiO₂. Effective amounts specifically claimed is 0.5 to 20% by weight of the TiO₂ which is doped.

Remy exemplify (example 2) a formulation comprising iron-doped titanium oxide in 10% in combination with zinc stearate and a fatty binder wherein the fatty binder is petroleum jelly or glycerol with other components include iron oxide. Zinc stearate, petroleum jelly and glycerol are all organic components. The instant claims recite that the organic component included is one which is degraded. Since all compounds

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degrade at some rate. The composition exemplified by Remy would inherently include organic components which are degraded. It is noted that *In re Best* (195 USPQ 430, C.C.P.A. 1997) and *In re Fitzgerald* (205 USPQ 594, C.C.P.A. 1980) discuss the support of rejections wherein the prior art discloses subject matter which there is reason to believe inherently includes functions that are newly cited or is identical to a product instantly claimed. In such a situation the burden is shifted to the applicants to "prove that subject matter shown to be in the prior art does not possess characteristic relied on" (205 USPQ 594, second column, first full paragraph).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Applicant Claims
2. Determining the scope and contents of the prior art.
3. Ascertaining the differences between the prior art and the claims at issue, and resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-7, 9, 11-25, 33-46 and 48-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knowland et al. (WO 99/60994, cited on PTO Form 1449) in view of Mitchnick et al. (5441726, cited on PTO Form 1449).

Applicant Claims

The instant application claims a UV suncreening composition comprising one or more organic components and an amount of titanium dioxide which is doped with one or more element. This composition has a rate of loss of UV absorption at least 5% less than that of a composition having the same formulation except that it does not contain the said titanium dioxide which has been doped with another element.

A specific species claimed for the dopant is manganese. The dopant is present in an amount from 0.05 to 10 mole% (or 0.5 to 2 mole %). The titanium dioxide is in rutile form. A dependent claim indicates that the titanium dioxide is coated with an inorganic or organic solvent. The composition further comprises titanium dioxide and/or

zinc oxide which has not been doped or reduced. The organic component is a sunscreen agent that absorbs UV light in the UVA region.

Determination of the Scope and Content of the Prior Art (MPEP §2141.01)

Knowland et al. teaches UV screening compositions comprising particles capable of absorbing UV light. It is taught that sunscreens typically contain titanium dioxide to reflect and/or absorb UV light (column 1, lines 11-12). The particle size is generally from 1 to 200 nm (page 3, lines 22-23). The particles may also be titanium or zinc oxide that has been doped with nickel, iron, chromium, aluminum, manganese, among others (page 5, lines 1-7). Example 3 is directed to manganese doped titanium dioxide. It is disclosed that titanium dioxide can be rutile, anatase, or a combination thereof. The table on page 13 discloses the ability of the different forms in oxidative degradation of phenol. Knowland et al. teaches 0.5% manganese has shown to be effective, however as low as 0.05% or as high as 10% may also be used (page 5, lines 17-20). Knowland et al. teaches that the particles may have an inorganic or organic coating (page 6, lines 25-26). Knowland et al. teaches the compositions comprising these particles may additionally contain silicones, other UVA, UVB, or broad-band sunscreen agents, colorants, metal oxide pigments, among others (page 7, lines 16-22). The metal oxides are present at a concentration of about 0.5 to 10% by weight and such compositions may comprise one or more of the compositions of the invention (page 7, lines 8-11). The compositions can be in the form of lotions gels, creams, powders, aerosols, foams, sprays, etc. (page 7, lines 12-15). Particles of the invention include those which are substantially spherical as well as non-spherical (page 3, lines 29-31).

***Ascertainment of the Difference Between Scope the Prior Art and the Claims
(MPEP §2141.012)***

Knowland et al. does not exemplify a formulation comprising doped titanium dioxide and an UVA, UVB or broadband sunscreen ingredient. Knowland et al. does not specify a particular UVA, UVB or broadband sunscreen ingredient. Knowland et al. does not exemplify the incorporation of titanium dioxide that is not doped. Knowland et al. does not exemplify coating the titanium dioxide particles with inorganic or organic solvents rendering them water-disperable or oil-dispersible. However, these deficiencies are cured by Mitchnick et al.

Mitchnick et al. discloses sunscreen lotions containing water, emulsifier, zinc and/or titanium oxides and a UVB absorber (column 11, lines 25-26). Exemplified UVB absorber is octyl methoxycinnamate (column 12). Doped zinc oxides are exemplified. The dopants include Bi and aluminum (column 10). The zinc oxide may be surface modified in order to make them more compatible in a given formulation. One example of a surface modification is a silicone-like compound in order to increase the zinc oxides compatibility with oil-based formulations (column 11, lines 17-21).

***Finding of Prima Facie Obviousness Rational and Motivation
(MPEP §2142-2143)***

It would have been obvious to one of ordinary skill in the art to utilize UVA, UVB, or broadband sunscreen agents in the formulation of Knowland et al. One of ordinary skill in the art would have been motivated to add any of these ingredients to example 3 because they are taught by Knowland et al. as being suitable ingredients to incorporate into the invention of Knowland et al. Furthermore, the compositions of Knowland et al.

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are taught as being sunscreen compositions and UVA, UVB or broadband sunscreen agents are ingredients commonly utilized in the art for these types of compositions. As a general principle it is *prima facie* obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose, the idea of combining them flows logically from their having been individually taught in the prior art. See *In re Kerkhoven*, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980) **MPEP 2144.06**.

It would have been obvious to one of ordinary skill in the art to combine the teachings of Knowland et al. and Mitchnick et al. and utilize octyl methoxycinnamate as the UVA, UVB or broadband sunscreen agent. It would have been obvious to one of ordinary skill in the art to utilize this sunscreen agent as it is taught by Mitchnick et al. to be suitable in sunscreen formulations comprising doped oxide particles.

It would have been obvious to one of ordinary skill in the art to combine the teachings of Knowland et al. and Mitchnick et al. and utilize non-doped zinc oxide or titanium dioxide. One of ordinary skill in the art would have been motivated to utilize these particles in addition to those already taught by Knowland et al. because they are taught by both Knowland et al and Mitchnick et al. as being typical ingredients utilized in sunscreen formulations and are taught by Mitchnick et al. to be incorporated into sunscreen products comprising doped oxide particles. As a general principle it is *prima facie* obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose, the idea of combining them flows logically from their having been

individually taught in the prior art. See *In re Kerkhoven*, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980) **MPEP 2144.06**.

It would have been obvious to one of ordinary skill in the art to combine the teachings of Knowland et al. and Mitchnick et al. and utilize particles coated with an inorganic solvent. One of ordinary skill in the art would have been motivated to coat the particles because Mitchnick et al. discloses that surface modified make them more compatible in a given formulations and Knowland et al. indicates that they can have an inorganic or organic coating. Therefore depending on the desired formulation of the particles to be used, it would have been obvious to one of ordinary skill in the art to coat the particles. These types of coatings would allow for a subset of the particles to oil-soluble, as Mitchnick et al. indicates, and another subset of the particles to be water-soluble, as Knowland et al. indicates. This would allow for the particles to be present in both phases of the composition and subsequently better coverage.

Regarding the functional limitations in claim 1, claim 17, claim 18, and claim 19, Knowland et al. discloses the same claimed composition comprising organic components and doped titanium dioxide and in the same claimed amounts. Note MPEP 2112.02 (11): "Products of identical chemical composition can not have mutually exclusive properties." A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present. In re Spada, 911 F.2d 705,709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

Absent any evidence to the contrary, and based upon the teachings of the prior art, there would have been a reasonable expectation of success in practicing the instantly claimed invention. Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

Response to Arguments

Applicants argue that (1) Knowland does not teach utilizing doped TiO₂ in effective amounts to impart loss of UV absorption. Applicants argue that (2) Mitchnick teaches high amounts of octyl methoxycinnamate and is not concerned with decomposition of octyl methoxycinnamate. Applicants argue that (3) Knowland and Mitchnick do not recognize the problems applicants solve. Applicants argue that (4) a person skilled in the art would expect compositions having low amounts (0.1 to 5%) by weight of a organic sunscreen agent to not contain a sufficient amount of the sunscreen active.

Applicants' arguments filed February 3 2009 have been fully considered but they are not persuasive.

Regarding applicants' first argument, Knowland teaches administration of the metal oxides in an amount of 0.5 to 10%. The instant claims recite 0.5 to 20%. Therefore, the amounts taught by Knowland fall within those instantly claimed and would necessarily be effective amounts of TiO₂.

Regarding applicants' second argument, while applicants' are correct in that Mitchnick teaches octyl methoxycinnamate in 7.5%, the amount of organic sunscreen

agent claimed in the claims rejected above is 0.1 to 20% by weight. Therefore, Mitchnick clearly teaches an amount of octyl methoxycinnamate that falls within the range instantly claimed.

Regarding applicants' third argument, the instant application is directed to a composition comprising TiO_2 which is doped and an organic sunscreen agent. The amount of TiO_2 doped claimed is 0.5 to 20% and the amount of organic sunscreen agent claims is 0.1 to 20%. Knowland clearly teaches utilizing amounts of doped TiO_2 that fall within the amount instantly claimed. Knowland additionally teaches the incorporation of an organic sunscreen agent. Therefore, the inclusion of this component would have been obvious to one of ordinary skill in the art based on the teachings Knowland. Mitchnick is utilized to show specific organic sunscreen agents and an amount that is known to be utilized in sunscreen compositions. Therefore, the examiner has presented a *prima facie* case of obviousness. Applicants have provided no evidence demonstrating the unobviousness of the instant invention. The fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

Regarding applicants' fourth argument, the examiner respectively disagrees. As evidence the examiner cites Garrison (US Patent No. 6555095). Garrison teaches that sunscreen actives are included in sunscreen formulations in amounts from about 0.1 to 50 wt %, more preferably at about 1.0 to about 35 wt% and most preferably at about 5

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wt %. It is taught that it is known by those skilled in the art that the amount of sunscreen active can be adjusted depending on the level of sunscreen protection desired from the composition. These amounts prove an SPF range of about 2 to about 50 (column 4, lines 29-39). Therefore, applicants arguments regarding the claimed amount of 0.1 to 5% by weight of an organic sunscreen agent as being too small to be seen by one of ordinary skill in the art as being effective is not persuasive as one of ordinary skill in the art would adjust the amount of active depending on the desired SPF of the composition. Therefore, when desiring a composition with a low SPF, one of ordinary skill in the art would include a lower amount of sunscreen active agent.

Therefore, the rejection is maintained since applicant has not provided any persuasive arguments to overcome the rejection.

Claims 32 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knowland et al. in view of Mitchnick et al. and in further view of Garrison (US Patent No. 6555095).

Applicant Claims

The instant application claims that the amount of organic sunscreen agent is 0.1 to 5% by weight.

Determination of the Scope and Content of the Prior Art (MPEP §2141.01)

The teachings of Knowland et al. and Mitchnick et al. are set forth above. Both teach the formation of sunscreen compositions comprising doped metal oxides.

Knowland et al. teach that organic sunscreen agents can be added. Mitchnick et al. teach octyl methoxycinnamate (a specific organic sunscreen agent) in combination with doped metal oxides. The exemplified amount of octyl methoxycinnamate is 7.5%.

**Ascertainment of the Difference Between Scope the Prior Art and the Claims
(MPEP §2141.012)**

Neither Knowland et al. or Mitchnick et al. teach amounts of sunscreen agent other than 7.5%. However, this deficiency is cured by Garrison.

Garrison teaches that sunscreen actives are included in sunscreen formulations in amounts from about 0.1 to 50 wt %, more preferably at about 1.0 to about 35 wt% and most preferably at about 5 wt %. It is taught that it is known by those skilled in the art that the amount of sunscreen active can be adjusted depending on the level of sunscreen protection desired from the composition. These amounts prove an SPF range of about 2 to about 50 (column 4, lines 29-39). Sunscreen active agents taught include octyl methoxycinnamate (column 4, lines 40-62).

**Finding of Prima Facie Obviousness Rationale and Motivation
(MPEP §2142-2143)**

It would have been obvious to one of ordinary skill in the art at the time of the instant invention to combine the teachings of Knowland et al., Mitchnick et al. and Garrison and utilize octyl methoxycinnamate in an amount less than 7.5 % by weight such as 5% by weight. One of ordinary skill in the art would have been motivated to manipulate the amount of the sunscreen agent depending on the desired SPF as taught by Garrison. Therefore, when desiring a composition with a lower SPF it would have

been obvious to one of ordinary skill in the art to utilize a lower amount of the sunscreen active.

Absent any evidence to the contrary, and based upon the teachings of the prior art, there would have been a reasonable expectation of success in practicing the instantly claimed invention. Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

Claims 1-4, 9, 11-23, 32, 34, 38-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurz et al. (US Patent No. 6436374, cited on PTO Form 1449).

Applicant Claims

The instant application claims a UV sun screening composition comprising one or more organic components and an amount of titanium dioxide which is doped with one or more element. This composition has a rate of loss of UV absorption at least 5% less than that of a composition having the same formulation except that it does not contain the said titanium dioxide which has been doped with another element.

The titanium dioxide is in rutile form. The composition further comprises titanium dioxide and/or zinc oxide which has not been doped or reduced. The organic component is a sunscreen agent that absorbs UV light in the UVA region.

Determination of the Scope and Content of the Prior Art (MPEP §2141.01)

Kurz et al. is directed to a light-stable cosmetic formulation containing butyl methoxydibenzoylmethane and doped titanium dioxide. Specifically claimed a process of improving the photostability of the organic sunscreen agent butyl-methoxydibenzoylmethane in a cosmetic composition comprising insoluble inorganic particles with are titanium dioxide particles doped with cerium or iron ions (claim 1). It is taught that many light protection filters are sensitive substances and have low stability towards the ultraviolet rays; they break down at a greater or less rate. This results in problems with the shelf life and effectiveness of the corresponding cosmetic formulations (column 1, lines 26-35). Kurz et al. found that the photostability of butyl methoxydibenzoylmethane (BMDM) is increased if insoluble inorganic particles which have good absorption the UVA region are added (column 2, lines 1-5). It is taught that the effectiveness of the inorganic UVA filters is to be attributed to the fact that being insoluble substances they cannot penetrate the skin and as a result remain in a layer on the skin. BMDM, being an organic molecule diffuses into the uppermost layers of the horny skin mean that once applied the formulation is a two-layer system with the lower layer, the BMDM, is reached only by relatively small amounts of energy resulting in reduced degradation of the organic light protection filter (column 2, lines 7-17). The particles taught include microfine titanium dioxide in a particle size preferably in the range of 10 nm to 100 μm (column 2, lines 25-31). Exemplified titanium dioxide is in the rutile form. This form is taught as having very good UVA absorption and is particularly highly suitable for the photo stabilization of BMDM (examples and column 2, lines 32-42). The content of the BMDM is from 0.1 to 10% by weight (column 2, lines 55-59).

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The content of the inorganic particles is from 0.1 to 30% by weight (column 2, lines 60-61). The light protection filter butyl methoxydibenzoylmethane can be on its own or in combination with one or more UVA filters from difference classes of substances which can be present in an amount from 0.01 to 40% by weight (column 2, lines 62-67). The formulation can comprise further cosmetic additives which are customarily used in this type of preparation including thickeners, emollients, surfactants, preservatives, dyes, pigments, etc. (column 3, lines 39-46). The forms include creams or milks (column 3, lines 53-54 and examples), gels (column 4, line 2), solids (column 4, line 8) and aerosols (column 4, lines 11).

**Ascertainment of the Difference Between Scope the Prior Art and the Claims
(MPEP §2141.012)**

While Kurz et al. teach that doped titanium dioxide can be combined with an organic sunscreen agent to form a more photostable composition, Kurz et al. do not exemplify this formulation. While Kurz et al. teach that other UV filters can be included as well teach utilizing undoped titanium dioxide particles, Kurz et al. do not exemplify formulations comprising doped titanium dioxide, non-doped titanium dioxide and an organic sunscreen agent.

***Finding of Prima Facie Obviousness Rationale and Motivation
(MPEP §2142-2143)***

It would have been obvious to one of ordinary skill in the art at the time of the instant invention to utilize iron doped titanium dioxide in combination with butyl methoxydibenzoylmethane in the formation of a cosmetic formulation. One of ordinary skill in the art would have been motivated to utilize iron doped titanium dioxide in

combination with butyl methoxydibenzoylmethane as this is a specific embodiment claimed by Kurz et al. as well as Kurz et al. teach that iron doped titanium dioxide can be added to cosmetic formations comprising butyl methoxydibenzoylmethane in order to improve the photostability of the cosmetic formulation.

It would have been obvious to one of ordinary skill in the art to utilize undoped titanium dioxide in combination with butyl methoxydibenzoylmethane and doped titanium dioxide. One of ordinary skill in the art would have been motivated to utilize undoped titanium dioxide as Kurz et al. teach that additional UV filter agents can be utilized and teach that titanium dioxide are organic particles that have good absorption in the UVA range. As a general principle it is *prima facie* obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose, the idea of combining them flows logically from their having been individually taught in the prior art. See *In re Kerkhoven*, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980) **MPEP 2144.06.**

Regarding the claimed particle size and amount of doped titanium dioxide, Kurz et al. teach an amount that overlaps that instantly claimed. In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a *prima facie* case of obviousness exists. **See MPEP 2144.05 [R-5]**

Regarding the claimed amounts of organic sunscreen agent, Kurz et al. teaches 0.1 to 10% by weight, 0.1 reads on the lower limit in both claimed ranges.

Absent any evidence to the contrary, and based upon the teachings of the prior art, there would have been a reasonable expectation of success in practicing the instantly claimed invention. Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

Claims 5-7, 24-25, 33, 35-36 and 50-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurz et al. in view of Knowland et al. as evidenced by Nicoll et al. (US Patent No. 6436374)

Applicant Claims

The instant application claims the dopant is manganese. The instant application claims specific amounts of the dopant. The instant application claims the composition comprises a water-dispersible and oil-dispersible titanium dioxide. The instant application claims the particles are substantially spherical.

Determination of the Scope and Content of the Prior Art (MPEP §2141.01)

The teachings of Kurz et al. are set forth above. Kurz et al. is directed cosmetic formulations comprising an organic sunscreen agent and doped titanium dioxide which results in a more photostable composition. Specific dopants include iron and cerium.

Ascertainment of the Difference Between Scope the Prior Art and the Claims (MPEP §2141.012)

Kurz et al. does not specify the amount of dopant present with the titanium dioxide. Kurz et al. does not specify the shape of the titanium dioxide. Kurz et al. do not teach utilizing manganese as the dopant. Kurz et al. do not teach utilizing water-

dispersible and oil-dispersible titanium dioxide. However, these deficiencies are cured by Knowland et al.

Knowland et al. teaches UV screening compositions comprising particles capable of absorbing UV light. It is taught that sunscreens typically contain titanium dioxide to reflect and/or absorb UV light (column 1, lines 11-12). The particle size is generally from 1 to 200 nm (page 3, lines 22-23). The particles may also be titanium or zinc oxide that has been doped with nickel, iron, chromium, aluminum, manganese, among others (page 5, lines 1-7). Example 3 is directed to manganese doped titanium dioxide. It is disclosed that titanium dioxide can be rutile, anatase, or a combination thereof. The table on page 13 discloses the ability of the different forms in oxidative degradation of phenol. Knowland et al. teaches 0.5% manganese has shown to be effective, however as low as 0.05% or as high as 10% may also be used (page 5, lines 17-20). Knowland et al. teaches that the particles may have an inorganic or organic coating. Coatings include oxides such as aluminum, zirconium or silicon. Organic material such as polyols, amines, alkanolamines and polymer organic silicone compounds can be utilized to coat the metal oxides as well (page 6, lines 25-31). Particles of the invention include those which are substantially spherical as well as non-spherical (page 3, lines 29-31).

***Finding of Prima Facie Obviousness Rationale and Motivation
(MPEP §2142-2143)***

It would have been obvious to one of ordinary skill in the art at the time of the instant invention to combine the teachings of Kurz et al. and Knowland et al. and utilize manganese as the dopant. One of ordinary skill in the art would have been motivated to utilize manganese as Kurz et al. teach that dopants such as iron and cerium can be

utilized and Knowland et al. teach doped titanium dioxide particles for the same purpose as those of Kurz et al. include dopants such as with nickel, iron, chromium, aluminum, and manganese. One of ordinary skill in the art would have been motivated to replace iron with manganese as both are taught by Knowland et al. as functional equivalents.

It would have been obvious to one of ordinary skill in the art at the time of the instant invention to combine the teachings of Kurz et al. and Knowland et al. and utilize a dopant in an amount from 0.05% or as high as 10%. One of ordinary skill in the art would have been motivated to utilize this amount of dopant as Kurz et al. and Knowland et al. are both directed to sunscreen formulation comprising doped titanium dioxide and Knowland et al. teach that this amount is a suitable amount of dopant to utilize in combination with metal oxides for sunscreen formulations.

It would have been obvious to one of ordinary skill in the art at the time of the instant invention to combine the teachings of Kurz et al. and Knowland et al. and utilize an organic or inorganic coating on the titanium dioxide in order to affect the dispersibility of the compounds. As evidenced by Nicoll et al. oil dispersible titanium dioxide are titanium dioxide coated with organosilicon compounds where as water dispersible titanium dioxide are those coated with aluminum oxides (column 2, lines 39-50). Therefore, it would have been obvious to one of ordinary skill in the art to coat the titanium dioxide as taught by Knowland et al. in order to manipulate the dispersibility of the titanium dioxide.

It would have been obvious to one of ordinary skill in the art at the time of the instant invention to combine the teachings of Kurz et al. and Knowland et al. and utilize

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spherical titanium dioxide. One of ordinary skill in the art would have been motivated to utilize spherical titanium dioxide as Kurz et al. and Knowland et al. are both directed to sunscreen formulation comprising doped titanium dioxide and Knowland et al. teach the particle of shapes of metal oxides that can be utilized in these composition include both spherical and non-spherical forms.

Absent any evidence to the contrary, and based upon the teachings of the prior art, there would have been a reasonable expectation of success in practicing the instantly claimed invention. Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

The provisional rejection of claims 1-7, 9 and 11-25 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 8, 10-12, 16-20, 24-29, 50-52, and 54-55 of copending Application No. 10/588071 is **withdrawn** in light of the abandonment of the copending application on 4/14/09.

Claims 1-7, 9, 11-25 and 32-52 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-29 of copending Application No. 10/563062 (US PG PUB No. 20060239941). Although the conflicting claims are not identical, they are not patentably distinct from each other because they overlap in scope.

The instant application claims a UV sun screening composition comprising one or more organic components and an amount of titanium dioxide which is doped with one or more element. This composition has a rate of loss of UV absorption at least 5% less than that of a composition having the same formulation except that it does not contain the said titanium dioxide which has been doped with another element.

Copending '062 claims a composition which comprises an ingredient which is adversely affected by UV light in the presence of a metal oxide selected from titanium dioxide, zinc oxide or mixtures thereof, a doped or reduced metal oxide and an undoped and nonreduced metal oxide.

Therefore, both applications are directed to compositions which comprise doped titanium dioxide. The instant application claims an organic component while copending '062 claims an ingredient which is adversely affected by UV light in the presence of

titanium dioxide and/or zinc oxide. A particular species of organic component as well as ingredient which is adversely affected is a UV sunscreen agent. Copending '062 claims all the instant limitations in the dependent claims. Therefore, both the instant application and '062 are directed to similar subject matter.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Response to Arguments

Applicants' argue that the arguments over Knowland et al. and Mitchnick et al. render the copending application patentably distinct over the instant invention.

Applicant's arguments filed February 3 2009 have been fully considered but they are not persuasive.

The claims of the copending claim the same ingredients as that instantly claimed. Further more an effective amount of a doped metal oxide sufficient to impart to the composition a rate of loss of UV absorption at least 5% less than that of a composition having the same formulation except that it does not contain the doped metal. Therefore, the scopes of both applications overlap.

Claims 1-7, 9, 11-25 and 32-52 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-11, and 14, of copending Application No. 10/555570 (US PGPUB No.

20070055000). Although the conflicting claims are not identical, they are not patentably distinct from each other because they overlap in scope.

The instant claims are set forth above.

Copending '570 claims a composition comprising an amount of one or more organic or inorganic components which are photosensitive and/or which are degraded by another ingredient of the composition an effective amount of a stabilizing material which includes titanium dioxide which is doped.

Both applications are directed to compositions which comprise doped titanium dioxide. Copending '570 claims that the product has a physical factor at least 5% less than that of a composition having the same formulation except that it does not contain doped titanium dioxide and/or zinc oxide. The instant application claims a specific physical factor (rate of loss of UV absorption). Copending '570 claims all the instant limitations in the dependent claims. Therefore, both the instant application and '570 are directed to similar subject matter.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Response to Arguments

Applicants' argue that the arguments over Knowland et al. and Mitchnick et al. render the copending application patentably distinct over the instant invention.

Applicant's arguments filed February 3 2009 have been fully considered but they are not persuasive.

The claims of the copending claim the same ingredients as that instantly claimed. Further more an effective amount of a doped metal oxide sufficient to impart to the composition a UV sensitive physical factor at least 5% less than that of a composition having the same formulation except that it does not contain the doped metal. Therefore, the scopes of both applications overlap.

Claims 1-7, 9, 11-25 and 32-52 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 6-8, 22-31 and 34-35 of copending Application No. 11/054188 (US PGPUB No. 20050169857) in view of Knowland et al.

The instant claims are set forth above.

Copending '188 claims a UV screening composition comprising particles. The particles as claimed include reduced zinc oxide, or zinc oxide and titanium dioxide with a second component. The second components overlap with the dopants of the instant application as well as the percentages claimed.

Copending '188 does not claim that sunscreen agent can be added. Copending '188 does not claim the composition is in the form of a lotion, gel, etc. or that the composition further contains non-doped particles. However, these deficiencies are cured by Knowland et al.

Knowland et al. teaches UV screening compositions comprising particles capable of absorbing UV light. It is taught that sunscreens typically contain titanium dioxide to reflect and/or absorb UV light (column 1, lines 11-12). It is disclosed that titanium

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dioxide can be rutile, anatase, or a combination thereof. The compositions can be in the form of lotions gels, creams, powders, aerosols, foams, sprays, etc. (page 7, lines 12-15).

It would have been obvious to one of ordinary skill in the art to combine the teachings of copending '188 and Knowland et al. and utilize sunscreen agents and non-doped titanium dioxide or zinc oxide. One of ordinary skill in the art would have been motivated to add these components as copending '188 are directed to UV screening compositions and sunscreen agents and titanium dioxide are taught by Knowland et al. as components typically utilized in screen compositions to reflect and/or absorb light. As a general principle it is *prima facie* obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose, the idea of combining them flows logically from their having been individually taught in the prior art. See *In re Kerkhoven*, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980) **MPEP 2144.06**.

It would have been obvious to one of ordinary skill in the art to formulate the UV screening composition of '188 into a cream or lotion as it was known that these are well known forms of sunscreens as taught by Knowland et al.

Therefore, the scopes of the copending claims and the instant application overlap and thus they are obvious variants of one another.

This is a provisional obviousness-type double patenting rejection.

Response to Arguments

Applicants' argue that the arguments over Knowland et al. and Mitchnick et al. render the copending application patentably distinct over the instant invention.

Applicant's arguments filed February 3 2009 have been fully considered but they are not persuasive.

Both applications are directed to sunscreen formulations comprising doped titanium dioxide. It would have been obvious to one of ordinary skill in the art to incorporate an additional sunscreen agent such as an organic sunscreen agent as taught by Knowland et al. Applicants have presented no persuasive arguments or evidence establishing a patentable difference between the instant application and copending '188.

Claims 1-7, 9, 11-25 and 32-52 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 7, 22-28, 30-31 and 34-35 of copending 11/207408 (USPGPUB No. 20060039875) in view of Knowland et al.

The instant claims are set forth above.

Copending '408 claims a UV screening composition comprising particles. The particles as claimed include reduced zinc oxide, or zinc oxide and titanium dioxide with a second component. The second components overlap with the dopants of the instant application as well as the percentages claimed.

Copending '408 does not claim that sunscreen agent can be added. Copending '408 does not claim the composition is in the form of a lotion, gel, etc. or that the composition further contains non-doped particles. However, these deficiencies are cured by Knowland et al.

Knowland et al. teaches UV screening compositions comprising particles capable of absorbing UV light. It is taught that sunscreens typically contain titanium dioxide to reflect and/or absorb UV light (column 1, lines 11-12). It is disclosed that titanium dioxide can be rutile, anatase, or a combination thereof. The compositions can be in the form of lotions gels, creams, powders, aerosols, foams, sprays, etc. (page 7, lines 12-15).

It would have been obvious to one of ordinary skill in the art to combine the teachings of copending '408 and Knowland et al. and utilize sunscreen agents and non-doped titanium dioxide or zinc oxide. One of ordinary skill in the art would have been motivated to add these components as copending '408 are directed to UV screening compositions and sunscreen agents and titanium dioxide are taught by Knowland et al. as components typically utilized in screen compositions to reflect and/or absorb light. As a general principle it is *prima facie* obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose, the idea of combining them flows logically from their having been individually taught in the prior art. See *In re Kerkhoven*, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980) **MPEP 2144.06**.

It would have been obvious to one of ordinary skill in the art to formulate the UV screening composition of '408 into a cream or lotion as it was known that these are well known forms of sunscreens as taught by Knowland et al.

Therefore, the scopes of the copending claims and the instant application overlap and thus they are obvious variants of one another.

This is a provisional obviousness-type double patenting rejection.

Response to Arguments

Applicants' argue that the arguments over Knowland et al. and Mitchnick et al. render the copending application patentably distinct over the instant invention.

Applicant's arguments filed February 3 2009 have been fully considered but they are not persuasive.

Both applications are directed to sunscreen formulations comprising doped titanium dioxide. It would have been obvious to one of ordinary skill in the art to incorporate an additional sunscreen agent such as an organic sunscreen agent as taught by Knowland et al. Applicants have presented no persuasive arguments or evidence establishing a patentable difference between the instant application and copending '408.

Claims 1-7, 9, 11-25 and 32-52 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-4, 7-8, and 10 of U.S. Patent No. 6869596 in view of Knowland et al.

The instant application claims are set forth above.

Patent '596 claims a UV screening composition comprising zinc oxide particles incorporating manganese or chromium. It is additionally claimed that the UV screening composition further comprises UVA, UVB, or broad-band sunscreen agents.

Patent '596 does not claim the composition is in the form of a lotion, gel, etc. or that the particles can be coated. Patent '596 does not claim doped titanium dioxide. Patent '596 does not claim that the composition further comprises non-doped titanium or zinc oxides. However, these deficiencies are cured by Knowland et al.

Knowland et al. teaches UV screening compositions comprising particles capable of absorbing UV light. It is taught that sunscreens typically contain titanium dioxide to reflect and/or absorb UV light (column 1, lines 11-12). It is disclosed that titanium dioxide can be rutile, anatase, or a combination thereof. The compositions can be in the form of lotions gels, creams, powders, aerosols, foams, sprays, etc. (page 7, lines 12-15). Knowland et al. teaches that UV screening compositions can comprises either doped titanium dioxide and/or zinc oxide (page 5, lines 1-5).

It would have been obvious to one of ordinary skill in the art to combine the teachings of Patent '596 and Knowland et al. and utilize doped titanium dioxide instead of doped zinc oxide. One of ordinary skill in the art would have been motivated to replace doped zinc oxide with doped titanium dioxide as both are taught by Knowland et al. as functional equivalents.

It would have been obvious to one of ordinary skill in the art to combine the teachings of copending Patent '596 and Knowland et al. and utilize sunscreen agents

and non-doped titanium dioxide or zinc oxide. One of ordinary skill in the art would have been motivated to add these components as Patent '596 are directed to UV screening compositions and sunscreen agents and titanium dioxide are taught by Knowland et al. as components typically utilized in screen compositions to reflect and/or absorb light. As a general principle it is *prima facie* obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose, the idea of combining them flows logically from their having been individually taught in the prior art. See *In re Kerkhoven*, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980) **MPEP 2144.06.**

It would have been obvious to one of ordinary skill in the art to formulate the UV screening composition of Patent '596 into a cream or lotion as it was known that these are well known forms of sunscreens as taught by Knowland et al.

Response to Arguments

Applicants' argue that the arguments over Knowland et al. and Mitchnick et al. render the copending application patentably distinct over the instant invention.

Applicant's arguments filed February 3 2009 have been fully considered but they are not persuasive.

Both applications are directed to sunscreen formulations comprising doped titanium dioxide. It would have been obvious to one of ordinary skill in the art to incorporate an additional sunscreen agent such as an organic sunscreen agent as taught by Knowland et al. Applicants have presented no persuasive arguments or

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evidence establishing a patentable difference between the instant application and Patent '596.

Conclusion

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ABIGAIL FISHER whose telephone number is (571)270-3502. The examiner can normally be reached on M-Th 9am-6pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on 571-272-0646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Abigail Fisher
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Art Unit 1616

AF

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